

S/120/60/000/01/002/051

EO32/E314

"Subharmonic" Acceleration of Ions in a Cyclotron

If the ion leaves the electric field region its trajectory becomes an open curve. The change in the phase of the ions is then determined by the parameter δ/λ_k (Ref 2). The initial section of the trajectory of the ion can be determined from Figures 1 and 2. The time taken between the source and the point of exit from the effective slit can be determined from Figures 3 and 5. In the region where the electric field is absent, the ion describes a circle. The table on p 19 gives the values of the phase ϕ_1 for $k = 3$ and $k = 5$ after the first half-revolution¹ of the ion when it intersects the mean line between the dees ($x = 0$). In this calculation it was assumed that $\omega_0 = 7 \times 10^7 \text{ sec}^{-1}$, $2\delta = 4$, $\delta/\lambda_3 = 1.65$, $\delta/\lambda_5 = 0.81$.

It may be concluded that for $k = 3$ and $k = 5$ there is a strong phase bunching of the ions (stronger than in the case $k = 1$). Apparently, this explains the appearance

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EO32/E314
Cyclotron

"Subharmonic" Acceleration of Ions in a
in the cyclotron designed to accelerate N^{+5} and N^{+6} ions
of beams of N^{+1} and N^{+2} ions. The figure captions
are as follows: Figure 1 - ionic trajectories for
different values of φ_0 and $k = 3$; Figure 2 - ionic
trajectories for different values of φ_0 and $k = 5$;
Figure 3 - dependence of x/λ_1 for ions with different
 φ_0 on the angle ωt in the case $k = 1$;
Figure 4 - dependence of x/λ_3 for ions with different
 φ_0 on the angle ωt in the case $k = 3$;
Figure 5 - dependence of x/λ_5 for ions with different
 φ_0 on the angle ωt in the case $k = 5$.
There are 5 figures, 1 table and 4 references, 3 of which
are Soviet and 1 English

SUBMITTED: October 13, 1958
Card 4/4



PHASE I BOOK EXPLOITATION

SOV/5425

Fedorov, N.D., Candidate of Technical Sciences, Compiler

Kratkiy spravochnik inzhenera-fizika: Yadernaya fizika. Atomnaya fizika
(Concise Handbook for the Engineering Physicist: Nuclear Physics. Atomic
Physics) Moscow, Atomizdat, 1961. 507 p. 28,000 copies printed.

Ed.: A.F. Alyab'yev; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This reference book is intended for engineers and physicists working
in the field of atomic and nuclear physics.

COVERAGE: The first seven parts of the book contain the most necessary reference
material on atomic and nuclear physics. The remaining parts present information
and data from other related fields. The last part gives the information on
systems of units compiled from the new GOST specifications, physical constants,
and some mathematical data. No personalities are mentioned. References
accompany each part of the book.

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Concise Handbook (Cont.)

80V/5425

Bibliography

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PART TWELVE. RADIOISOTOPES AND THEIR TECHNICAL APPLICATIONS
IN INDUSTRY (P. S. SAVITSKIY)

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Concise Handbook (Cont.)

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1. Some frequently encountered constants. 2. Conversion of the degree scale to the radian scale. 3. Values of trigonometric functions. 4. Exponential and hyperbolic functions. 5. Bessel functions. 487

Bibliography

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AVAILABLE: Library of Congress

Card ~~13/13~~

JA/lmb/mas
9-20-61

FEDOROV, N.; SUKHORUKOV, A.; GORBATOV, A.

Economic effectiveness of adopting progressive forms of interopera-
tional transportation. *Mias.ind.SSSR* 32 no.2:39-41 '61.
(MIRA 14:7)

(Meat—Transportation)

FEDOROV, N. D.

246730

Look 8

S/089/62/013/002/001/011
B102/B104

AUTHORS: Babichev, A. P., Venikov, N. I., Knyazyatov, A. S.,
Meshcherov, R. A., Mironov, Ye. S., Nemenov, L. M.,
Fedorov, N. D., Kholmovskiy, Yu. A.

TITLE: Control of the magnetic field configuration in a cyclotron.

PERIODICAL: Atomnaya energiya, v. 13, no. 2, 1962, 125-134

TEXT: Between 1956 and 1959, experiments were made with a model magnet of one-fifth the full size, made of Cr.-3 (St.-3) steel, in connection with the redesign of the 1.5-m cyclotron belonging to the Ordena Lenina Institut atomnoy energii im. I. V. Kurchatova AN SSSR (Lenin Order Institute of Atomic Energy imeni I. V. Kurchatov, AS USSR). The pole pieces were either cylindrical (370 mm diameter) or conical (300 mm diameter) and the magnet gap was 90 mm wide. The current in the windings could be kept constant to within $\pm 0.1\%$, and the field strengths were measured with an error of $\pm 0.03-0.1\%$. The following were investigated: (1) the optimum geometry of the magnet to ensure a field of constant configuration ($\Delta H/H_0(R)$ minimum when H_0 changes), the magnet having

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Control of the magnetic field ...

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cylindrical poles and three pairs of caps 14.5 mm thick of different diameters. The best results were obtained using caps with a diameter smaller than that of the poles. Measurements were made not only for $\Delta H/H_0 = f(R)$ with and without shims, but also for $\Delta H/H_0 = f(r)$, where r is the radius of curvature of the caps. The constancy of the field configuration can be improved by replacing the caps by internal shims. (2) Correction of the magnetic field by inserting circular coils in the magnet gap between the caps. Experiments were made with six such coils, of different diameters, mounted on a brass frame. Each winding consisted of five turns of a 4 by 0.5 mm copper tube enclosing a flow of water. The field created by the coils $H_w(H)$ with current (150 a) and without current was measured by a differential method and their effect on the field configuration was studied under various conditions. Shimming seems to be the most convenient way of correcting the field. (3) Sector-type windings. These were used for generating a first harmonic and also for regulating the field. In the case of magnets with dead turns, the field of the first harmonic was measured in dependence on the radius. (4) Correction of the field by annular windings in the shimming gap. These are less effective in the shimming gap than in the magnet gap. (5) Correction of the field

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Control of the magnetic field ...

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for azimuthal variation. For this purpose, only one turn (Cu tube 3 by 0.5 mm; maximum current strength 600 a), was used which had the same effect as in an axisymmetric field. There are 15 figures.

SUBMITTED: August 23, 1961

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h0049

S/089/62/013/002/002/011
B102/B10424 6760
AUTHORS:

Afanas'yev, I. I., Knyazyatov, A. S., Fedorov, N. D.

TITLE:

Pulsed ion source with low gas consumption

PERIODICAL:

Atomnaya energiya, v. 13, no. 2, 1962, 135-140

TEXT: The design and operation of two varieties of pulsed ion sources characterized by especially low gas consumption (10^{-3} cm³/pulse) are described. These operate on a principle stated by K. Ehlers et al. (Rev. Scient. Instrum., 29, 7, 614, 1958) using titanium disk electrodes impregnated with hydrogen or deuterium. In each case the discharge channel is a pile of these titanium disks stuck together by mica insulations in the first case and is built up under vacuum in the second. The individual disks, slightly impregnated, are separated by small plates of mica and insulated on both sides by rings of teflon. In both cases, good impregnation of the Ti disks is essential for the discharge. The deuterium current incident on the target (10 mm diameter) is determined by a beam catcher. In the two cases this reaches a strength of 30-40 and of 10 ma, the distances between detector and source being 50 and 120 cm,

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Pulsed ion source with low ...

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respectively. The duration of one pulse is about 500 μ sec. Two electrodes in a special focusing apparatus serve to focus the beam as it emerges, from the source. If the number of disks in the pile is about 10 the source operates steadily, but with 12-15 disks the discharge becomes more difficult or even impossible to produce. The voltage drop in the discharge is 35-40 v and depends only slightly on the discharge current (20-275 a). The fact that the gas consumption is only 10^{-3} cm³/pulse at a discharge current of 215 a ensures that the beam current drops by 50% only after 2000-3000 pulses. There are 9 figures. ✓

SUBMITTED: November 1, 1961

Card 2/2

KURASHOV, Anatoliy Aleksandrovich; FEDOROV, Nikolay Dmitriyevich;
ANDREYENKO, Z.D., red.; MAZEL', Ye.I., tekhn. red.

[From a counter to an analyzer] Ot schetchika k analizatoru.
Moskva, Gosatomizdat, 1963. 146 p. (MIRA 16:5)
(Counting devices) (Pulse techniques (Electronics))

L 13373-63

EPR/BDS/EWT(1)/ES(▼)/ES(w)-2 AEDC/AFFTC/ASD/SSD Ps-4/

Pe-4/Pab-4 WV

ACCESSION NR: AP3002736

S/0120/63/000/003/0131/0133

AUTHOR: Lavrov, O. V.; Fedorov, N. D.; Khaldin, N. N. 72

TITLE: Quick-acting ¹vacuum valve 3

SOURCE: Pribery* 1 tekhnika eksperimenta, no.3, 1963, 131-133

TOPIC TAGS: vacuum valve

ABSTRACT: A quick-acting vacuum slide valve for a pulse-type ion source¹ with a low (10^{-3} cm³ per pulse) gas consumption is described. A 2-seal, 2-electromagnet design is used; the source aperture is open when the shutter slides between its extreme positions. Five microseconds elapse from the start of opening to the complete shutting of the 16-mm hole. Prospects of a better design, with one electromagnet, are indicated. Construction sketches are presented. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 01Aug62

DATE ACQ: 12Jul63

ENCL: 00

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

Card 1/1

L 8621-66 EMT(1) IJP(a) WW/00

ACC NR: AP5027039

SOURCE CODE: UR/0120/65/000/005/0220/0221

^{44,55} ^{44,55} ^{44,55}
AUTHOR: Zhernovoy, A.I.; Stakhov, O.V.; Fedorov, N.D.

ORG: Institute of Nuclear Physics, AN KazSSR, Alma-Ata (Institut yadernoy fiziki AN KazSSR)

TITLE: The measurement of strong magnetic fields by means of an NMR flow sensor

SOURCE: Pribery i tekhnika eksperimenta, no. 5, 1965, 220-221

TOPIC TAGS: NMR, strong magnetic field, magnetic field measurement, flow research, electromagnet

^{21,44,55} ^{9m}
ABSTRACT: NMR detectors with fixed probes are often used for the recording and stabilization of strong magnetic fields. However, in addition to the need for various exchangeable sensors, it is often necessary to either place a part of the electronic circuitry into the magnetic gap or increase the length of the HF cable. Since both approaches are far from satisfactory, the authors introduce a flow of liquid which is subsequently used for the NMR measurement of the field of a ϕ 1.5 m pole piece electromagnet. The measurements are based on the nutation method applied to the nuclei of the liquid; these nuclei are polarized within the magnetic field under investigation, while the recording of the resonance is carried out by the NMR sensor located outside the field under study within an auxiliary field of a permanent magnet. The article presents a description of the device and outlines the characteristics of the strong magnetic field measurements. The minimum value of the recorded field

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UDC: 539.283.078

L 8621-66

ACC NR: AP5027039

(limited basically by the signal-to-noise ratio at the exit of the NMR indicator) is in the 300 - 500 Oe region, the maximum (depending on the HF power supply circuit) can be extended above 25 kOe ($f > 100$ Mc) provided powerful generators or specially matched coil-HF generator pairs are used. The theoretical recording accuracy does not exceed $1 \cdot 10^{-5}$. In practice, it was no better than $5 \cdot 10^{-5}$ since the frequency tuning of the G4-7A generator did not allow sufficiently accurate frequency adjustments. Authors thank A. A. Skakodub for his help. Orig. art. has: 1 formula and 1 figure. 44,55

SUB CODE: NP,EM / SUBM DATE: 27Jun64 / ORIG REF: 001

Jrn

Card 2/2

ZHERNOVOY, A.I.; STAKHOV, O.V.; FEDOROV, N.D.

Measurement of strong magnetic fields by means of a flow
transducer of nuclear magnetic resonance. Prib. i tekhn. eksp.
10 no.5:220-221 S-O '65.

(MIRA 19:1)

1. Institut yadernoy fiziki AN Kazakhskoy SSR, Alma-Ata.
Submitted June 27, 1964.

L 06139-67 EWT(m) IJP(c)

ACC NR: AP6031170

SOURCE CODE: UR/0361/66/000,002/0003/0015

AUTHOR: Nemenov, L. M.; Anisimov, O. K.; Arzumanov, A. A.; Golovanov, U. N.;
Yezerskiy, V. F.; Kravchenko, Ye. T.; Kruglov, V. G.; Laktionov, I. A.; Meshcherov, R.
A.; Meshcherova, I. V.; Popov, Yu. S.; Prokof'yev, S. I.; Rybin, S. N.; Fedorov, M. D.

ORG: Institute of Nuclear Physics, AN KazSSR (Institut yadernoy fiziki AN KazSSR)

TITLE: Putting the Kazakhstan cyclotron into operation

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 2, 1966, 3-15

TOPIC TAGS: cyclotron, proton accelerator, Mev accelerator, alpha particle / U1502
cyclotron

ABSTRACT: The U-150-2 cyclotron of the Institute of Nuclear Physics of the Academy of Sciences of the Kazak SSR is described. This cyclotron is designed to accelerate protons, deuterons, alpha particles, and multiply charged ions. Energies of 24 Mev are obtained with deuterons. Alpha particles and protons can be accelerated to 48 Mev and 20 Mev, respectively. Sixfold ionized carbon can be accelerated to 140 Mev. The magnetic field in the cyclotron necessary for 20 Mev deuteron production is 14000 oersteds; this is produced by a current of 800 amp. The necessary variation of the magnetic field with radius is obtained by the use of annular shims. The high frequency generator and its alignment is described. The dependence of beam current at various

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L 06139-67

ACC NR: AP6031170

final radii is plotted as a function of the potential between the "dees". The authors thank engineers V. A. Borisov, B. L. Vaysman, N. G. Gladenko, senior electronic engineer D. D. Gromov, chiefs of work shifts G. A. Obrastsov and V. E. Oshkin, and chief of service A. I. Tkachev for participation in the work of setting aright the various difficulties involved in setting up the cyclotron. Orig. art. has: 11 figures.

SUB CODE: 18/20

SUBM DATE: none

Card 2/2 m/c

FEDOROV, N.D.

Result of phthivazid therapy of streptomycin-resistant forms of tuberculosis of the upper respiratory tract. Vest. oto-rin. 16 no.5:62-64 S-0 '54. (MIRA 7:12)

1. Iz Samovskoy tuberkuleznoy bol'nitsy i Gorodskogo protivotuberkuleznogo dispansera, Voronezh.

(NICOTNIC ACID ISOMERS, therapeutic use,

isoniazid in upper resp. tract tuberc. resist. to streptomycin)

(TUBERCULOSIS,

of upper resp. tract, ther., isoniazid in streptomycin-resist. forms)

(RESPIRATORY TRACT, diseases,

tuberc. of upper resp. tract, ther., isoniazid in streptomycin-resist. forms)

FEDOROV, N.F.

USSR/Farm Animals. Honeybee.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78838.

Author : Fedorov, N.F.

Inst :

Title : hibernation of Bees in Honey from Calluna Vulgaris.

Orig Pub: Pchelovodstvo, 1958, No 1, 57.

Abstract: In the Leningrad Oblast, hibernation of bees
in honey from calluna vulgaris occurs safely
with the condition of dense settling of the
frames by the bees.

Card : 1/1

S/080/62/035/010/003/012
D204/D307

AUTHORS: Toporov, N.A. and Fedorov, N.F.

TITLE: Stabilization of the high temperature forms of di-calcium silicate (C_2S) with lanthanide orthosilicates

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 10, 1962, 2156-2161

TEXT: The transformations of C_2S between the various modifications are briefly reviewed, showing that the rare earth orthosilicates are similar in a number of properties to $\alpha-C_2S$, and should thus stabilize this form. The system $Ca_2SiO_4 - Y_4(SiO_4)_3$ were studied, over the whole range of compositions in 5% steps, to establish the crystalline phases present. The starting mixtures were prepared from synthetic $\gamma-C_2S$, Y_2O_3 and SiO_2 , the latter being in the molar ratio of 2:3. The liquidus temperatures of the compositions were measured and the specimens were examined microscopically

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Stabilization of the high ...

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D204/D307

and by X-rays. The optical constants and densities were determined. Compositions containing up to 40% $Y_4(SiO_4)_3$ were homogeneous and transparent, but rapidly became two-phase when the latter amount of $Y_4(SiO_4)_3$ was exceeded. It was found that a series of solid solutions based on C_2S exists in a limited range of compositions, the limiting concentration being $42.5 \pm 2.5\%$ $Y_4(SiO_4)_3$. Three different regions were observed, containing (1) up to 5%, (2) 10 to 20%, and (3) 25 to <40% of $Y_4(SiO_4)_3$ (by weight), the first region corresponding to the stabilization of $\beta-C_2S$, the second to the stabilization of $\alpha'-C_2S$, and the third to that of $\alpha-C_2S$. There are 2 figures and 2 tables.

SUBMITTED: July 18, 1961

Card 2/2

TOROPOV, N.A.; FEDOROV, N.F.

Solid solutions of lanthanum orthosilicate in dicalcium silicate.
(MIRA 15112)
Zhur.prikl.khim. 35 no.11:2548-2550 N '62.
(Lanthanum silicate) (Calcium silicate) (Solutions, Solid)

TOROPOV, N.A.; FEDOROV, N.P.

Binding properties of various modifications of dicalcium silicate.
(MIRA 16:5)
Zhur.prikl.khim. 35 no.12:2585-2588 D '62.
(Calcium silicates) (Binding materials)

TOROPOV, N.A.; FEDOROV, N.F.; SHEVYAKOV, A.M.

Infrared absorption spectra of polymorphic modifications of
dicalcium silicate. Zhur.nerog.khim. 8 no.1:69-71 Ja '63.
(MIRA 16:5)

(Calcium silicates—Spectra)

AM1035375

BOOK EXPLOITATION

S/

Velli, YU. YA. (Candidate of Technical Sciences); Dokuchayev, V. V.; Fedorov, N. F. (Doctor of Technical Sciences)

Buildings and structures in the extreme North; a handbook (Zdaniya i sooruzheniya na Kraynem Severe; spravochnoye posobiye), Leningrad, Gosstroyizdat, 1963, 490 p. illus., biblio. Errata slip inserted. 5,000 copies printed. (At head of title: Lennormiiprojekt).

TOPIC TAGS: civil engineering, construction, highway, permafrost, communication line, water plant

PURPOSE AND COVERAGE: The book presents handbook data necessary for planning, designing, and construction of communities, civil and industrial buildings and their structural elements in the northern regions of the country and also gives data for designing engineering links, highways, water plants, communication lines, and electrical transmission lines. The book contains the technical-economic indicators and handbook materials necessary to select design parameters. The book is intended for engineers-planners and construction workers.

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AM4035375

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SUB CODE: ME

SUBMITTED: 09Dec63

NR REF SOV: 056

OTHER: 000

DATE ACQ: 16Apr64

Cord 3/3

FEDOROV, Nikolay Fedorovich, doktor tekhn. nauk, prof.; SAPOZHNIKOV,
M.M., kand. tekhn. nauk, nauchn. red. [deceased];

[New research and hydraulic calculations for sewerage systems]
Novye issledovaniia i gidravlicheskie raschety kanalizatsion-
nykh setei. Izd.2., perer. i dop. Leningrad, Stroiizdat,
1964. 320 p. (MIRA 17:7)

✓ Testing basic coagulants for purification of waste waters from yeast plants. N. F. Fedorov and B. M. Golod. Nauch. Trudy Leningrad. Tkhim. Stroyel Inst. 16, 89-106 (1953); Referat. Zhur., Khim. 1954, No. 48824. — Coagulation of waste water from fermentation plants operating on molasses could be done with Fe sulfate combined with lime. The best results were obtained with FeSO_4 (calcd. as FeO) 200 and CaO 600 mg./l. This treatment raised the transparency of the most contaminated water from 1.2 to 13 cm., the stability from 11 to 30%, while the oxidizability was lowered by 13%. Upon coagulation was obtained a sediment of approx. 15% with a moisture content of approx. 99%. The water after coagulation had a pH of approx. 8.7 and was free of bacteria. The water could be discharged

directly into the watershed without preliminary neutralization. Other waste waters (from the filter presses, from washing app., etc.) behaved similarly. Coagulation with lime alone or with Al salts combined with preliminary alkalization did not give good results. M. Hosh

FEDOROV, Nikolay Fedorovich, doktor tekhnicheskikh nauk, professor;
SAPOZHNIKOV, M.M., kandidat tekhnicheskikh nauk, redakter;
SHIGORIN, G.G., kandidat tekhnicheskikh nauk, dotsent, retsenzent;
MORGENSHTERN, V.S., kandidat tekhnicheskikh nauk, dotsent, retsenzent;
KAPLAN, M.Ya., redakter; PUL'KINA, Ye.A., tekhnicheskii redakter.

[New studies and hydraulic calculations of sewer systems] Neye issledovaniia i gidravlicheskie raschety kanalisatsionnykh setei. Leningrad, Gos. izd-vo lit-ry po stroit. i arkhitektуре, 1956. 257 p. (Sewer design) (MLRA 9:5)

FEDOROV, N.F. doktor tekhnicheskikh nauk, professor

Calibrating apparatus for testing tensometers. Zav.lab. 22 no.5:
620 '56. (MLRA 9:8)

1. Zamestitel' direktora Leningradskogo inzhenerno-stroitel'nogo
instituta; 2. Leningradskiy inzhenerno-stroitel'nyy institut.
(Strain gauges) (Calibration)

FEDOROV, Nikolay Fedorovich

FEDOROV, Nikolay Fedorovich, doktor tekhnicheskikh nauk, prof.; BOLOTNYY, V.V. [deceased], kand. tekhn. nauk, spetsial'nyy redaktor; KHRISTENKO, V.P., redaktor izdatel'stva; PETROVSKAYA, Ye.S., tekhnicheskiy redaktor.

[Public sanitation of cities] Sanitarnoe blagoustroistvo gorodov. Moskva, Izd-vo M-va kommun.khoz.BSFSR, 1957. 302 p. (MIRA 10:11)
(Sanitary engineering)

SOV/124-58-3-3069

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 75 (USSR)

AUTHOR: Fedorov, N. F.

TITLE: On the Energy Losses in the Flow of Non-homogeneous Fluids Through Pressure Conduits (O poteryakh energii pri dvizhenii neodnorodnykh zhidkostey po napornym truboprovodam)

PERIODICAL: Nauchn. tr. Leningr. inzh. -stroit. in-ta, 1957, Nr 25, pp 5-13

ABSTRACT: The article presents experimental data pertaining to the energy losses in the flow of a clay suspension, lake and sewer silt, and paper pulp in pipes. For the calculation of the energy losses of the clay suspension the article recommends L. Kh. Maksimov's formula $V = CR^{0.66} J^{0.5}$, where V is the velocity of motion of the suspension, R is the hydraulic radius, J is the hydraulic slope, and C is a coefficient depending on the viscosity and consistency of the suspension. For the determination of the energy losses of the lake silt the formula of N. P. Demin is recommended;

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$$h_{100} = \left(0.0035 \frac{\theta^{0.6}}{d^{1.6}} + 0.23 \frac{v^2}{d^{0.8} \eta^{0.2}} \right) \gamma$$

where h_{100} is the head loss per 100 m, θ is the ultimate stress in shear in dynes/cm², η is the plastic viscosity in poises, and γ is the specific gravity [density; Transl. Ed.] of the silt. The energy losses for the flow of the sewer silt are represented by means of graphs drawn in accordance with the author's experimental data. The energy losses for the wood pulp, it is recommended, are to be determined from graphs of the function $i=f(V, Q)$ drawn on the basis of L. Ye. Volkov's investigations. On the basis of the results of his experiments the author presents a number of general conclusions and examines some of the reasons for the anomalous behaviour of non-homogeneous fluids in pressure conduits as compared to water.

V. I. Gotovtsev

Card 2/2

FEDOROV, Nikolay Fedorovich, prof., doktor tekhn.nauk; SAKHAROV, Igor'
Vladimirovich, inzh.; MORGENSHTERN, V.S., kand.tekhn.nauk,
nauchnyy red.; KAPLAN, M.Ya., red.izd-va; PUL'KINA, Ye.A.,
tekhn.red.

[Calculation of local resistance in the planning of sewer systems]
Raschet mestnykh soprotivlenii pri proektirovanii kanalisatsion-
nykh setei. Leningrad, Gos. izd-vo lit-ry po stroit., arkhitekt. i
stroit. materialam, 1958. 89 p. (MIRA 11:5)
(Fluid dynamics)

FEDOROV, N.F., prof., doktor tekhn. nauk; AITUF'YAN, A.M., red. 1zd-va;
RAKITIN, I.T., tekhn. red.

[Hydraulic design of sewerage systems; calculation tables] Gidravli-
cheskii raschet kanalizatsionnykh setei; raschetnye tablitsy.
Moskva, Izd-vo M-va kommun. khoz. RSFSR, 1958. 207 p. (MIRA 11:7)
(Sewerage—Tables, calculations, etc.)

FEDOROV, Nikolay Fedorovich; VOLKOV, Ley Yefimovich; LASKOV, Yu.M., red.;
RACHEVSKAYA, M.I., red.1zd-va; PYRKINA, N.F., tekhn.red.

[Hydraulic calculations relating to sewerage systems] Gidravli-
cheskii raschet kanalizatsionnykh setei; raschetnye tablitsy.
Izd.2., ispr. 1 dop. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1960.
241 p. (MIRA 14:7)

(Sewerage)

AGRONIK, Ye.Z., kand.tekhn.nauk; BELOV, A.N., dotsent; GLADKOV, A.M.,
 inzh.; GLUSKIN, S.A., inzh.; IVANOV, L.V., dotsent, kand.tekhn.
 nauk; LIPKIN, Ye.V., kand.tekhn.nauk; NIKIFOROV, G.N., dotsent,
 kand.tekhn.nauk; PSENSON, I.B., inzh.; PREGER, Ye.A., dotsent,
 kand.tekhn.nauk; PYATOV, Ya.N., inzh.; ROKHCHIN, Ye.Z., inzh.;
 FEDOROV, N.F., prof., doktor tekhn.nauk; SHVARTS, R.B., inzh.;
 SHIGORIN, G.G., dotsent, kand.tekhn.nauk; SHIFRIN, S.M., prof.,
 doktor tekhn.nauk; ROTENBERG, A.S., red.izd-va; VORONETSKAYA,
 L.V., tekhn.red.

[Water-supply and sewerage manual] Spravochnik po vodosnabzheniu
 i kanalizatsii. Pod red. N.F.Fedorova. Izd.2., ispr. i dop.
 Leningrad, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam,
 1960. 420 p. (MIRA 13:12)

1: Moscow. Vodokanalproyekt. Leningradskoye otdeleniye.
 (Water-supply engineering) (Sewerage)

FEDOROV, Nikolay Fedorovich; VOLKOV, Lev Yefimovich; LASKOV, Yu.M.,
red.; BUTT, V.P., red. izd-va; LELYUKHIN, A.A., tekhn. red.

[Hydraulic calculations relating to sewer systems; calculation
tables] Gidravlicheskiĭ raschet kanalizatsionnykh setei;
raschetnye tablitsy. 3., ispr. 1 dop. izd. Moskva, Izd-vo
M-va kommun. khoz. RSFSR, 1961. 253 p. (MIRA 15:4)
(Sewerage—Tables, calculations, etc.)

FEDOROV, N.F.; SHIFRIN, S.M.; SHIGORIN, G.G.; PESEASON, I.B.; MORGENSHTERN,
V.S., kand. tekhn. nauk, nauchnyy red.; KAPLAN, M.Ya., red. izd-va;
PUL'KINA, Ye.A., tekhn. red.

[Sewerage systems and structures; planning and design] Kanalizatsionnye
seti i sooruzhenia; proektirovanie i raschet. Leningrad, Gos. izd-vo
lit-ry po stroit., arkhitekt. i stroit. materialam, 1961. 314 p.
(MIRA 14:7)

(Sewerage)

FEDOROV, Nikolay Fedorovich, prof., doktor tekhn. nauk; GUSEV, Valerian
Mikheylovich, dotsent, kand. tekhn. nauk; POPRUGIN, I.V., inzh.,
ratsenzent; MOROZOV, N.I., inzh., ratsenzent; GEPDING, A.K., kand.
tekhn. nauk, nauchnyy red.; STEPANOV, D.A., inzh., nauchnyy red.;
ZHURAVSKIY, N.A., red.; VOLCHOK, K.M., tekhn. red.; PUL'KINA, Ye.A.,
tekhn. red.

[Sanitary engineering] Sanitarnaya tekhnika. Leningrad, Gos. izd-vo
lit-ry po stroit., arkhitekt. i stroit. materialam, 1961. 371 p.
(MIRA 14:6)

(Sanitary engineering)

S/080/62/035/011/008/011
D204/D307

AUTHORS: Toropov, N.A., and Fedorov, N.F.

TITLE: Solid solutions of lanthanum orthosilicate in dicalcium silicate

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 11, 1962, 2548 - 2550

TEXT: The system $\text{CaO-La}_2\text{O}_3\text{-SiO}_2$ (C-L-S) was studied, using $\gamma\text{-C}_2\text{S}$, prepared from analytically pure CaCO_3 and mountain crystal (99.9 % SiO_2), and L_2S_3 derived from La_2O_3 containing ≈ 0.75 % of other rare earth oxides. The materials were ground intimately in an agate mortar, bonded with dextrin into 2-3 mm dia cylinders and fired at $800\text{-}1000^\circ\text{C}$ to eliminate the dextrin. The composition was varied from 0 to 100 % C_2S , in 5 % steps. The specimens were melted, homogenized, quenched and examined microscopically and by x-rays. Compositions containing $5\text{-}35 \pm 2.5$ wt. % L_2S_3 constituted a series of

Card 1/2

Solid solutions of lanthanum ...

S/080/62/035/011/008/011
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solid solutions, with m.p.'s decreasing from 2100 ± 30 to 1910°C decreasing C_2S content. The presence of L_2S_3 stabilized various modifications of C_2S . Thus mainly $\beta - \text{C}_2\text{S}$ was found in compositions containing $< 10\%$ L_2S_3 , and both β and $\alpha' - \text{C}_2\text{S}$ in those with 10 - 15 % C_2S . $\beta - \text{C}_2\text{S}$ disappeared when L_2S_3 was raised to 20 %, and $\alpha' - \text{C}_2\text{S}$ was most pronounced in this region. Further increase of L_2S_3 promoted $\alpha - \text{C}_2\text{S}$. The above method is unsuitable for constructing phase diagrams, incorporating C_2S , since the structural transitions take place too rapidly. The m.p.'s were determined by a method developed at the Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry, AS USSR), by Toropov et. al. There are 2 tables.

SUBMITTED: March 23, 1962

Card 2/2

S/080/62/035/012/001/012
D444/D307

AUTHORS: Toropov, N.A. and Fedorov, N.F.
TITLE: The cementing properties of the different modifications of dicalcium silicate.

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 12, 1962, 2585-2588

TEXT: Published experimental information on hydraulic properties of dicalcium silicate is restricted to the β - and γ -forms. In the present work the β -form was stabilized with B_2O_3 or $Nd_4[SiO_4]_3$ and the α' - and α -forms with the latter compound. All specimens were free from uncombined CaO . The hydraulic activity was determined on specimens ground to a specific surface of about 3000 g/cm^2 [Abstracter's note: cm^2/g ?], the 3-, 7- and 28-day strengths being measured. X-ray diffraction patterns of hydration products showed only the lines of unhydrated materials. Some specimens, after standing for a day, were steam-cured in a laboratory autoclave for 8 hours at 8 atm. This treatment was effective for

Card 1/2

The cementing properties ...

S/080/62/035/012/001/012
D444/D307

all the modifications of dicalcium silicate, but with air hardening the γ - and α -forms stabilized with $\text{Nd}_4[\text{SiO}_4]_3$ have no cementing properties. The β - and α' -forms, on the other hand, show hydraulic activity, though with the α' -form this is very slight. There are 1 figure and 2 tables. ✓

SUBMITTED: March 30, 1962

Card 2/2

TOROPOV, N.A.; FEDOROV, M.F.; SHEVYAKOV, A.M.

Infrared absorption spectra of the orthosilicates of some
bivalent elements. Zhur. neorg. khim. 8 no.6:1342-1344
Je '63. (MIRA 16:6)

(Silicates—Absorption spectra)

ACCESSION NR: AP4009351

S/0078/64/009/001/0156/0163

AUTHORS: Toropov, N. A.; Fedorov, M. F.

TITLE: Solid solutions in the calcium orthosilicate - neodymium orthosilicate system

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 1, 1964, 150-163

TOPIC TAGS: dicalcium silicate, calcium orthosilicate, neodymium orthosilicate, silicate solid solution

ABSTRACT: This is a continuation of the authors' work on calcium orthosilicate and yttrium orthosilicate interaction at high temperatures (Zh. Prikl. khimii No. 10, 2150 (1962)). Dicalcium silicate in γ -form was used. Neodymium oxide and silica were introduced in a 2:3 proportion. Preliminary calcining was done at 800-1000C. Annealing was done in argon atmosphere in a vacuum micro furnace. Hardening for 15 sec to 10 min took place at 1700-2200C. Samples were microscopically studied in immersion and radiographed by the ionization recording method. Up to 40% (by weight) neodymium orthosilicate content in the solid solution, the latter is uniform

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ACCESSION NR: AP4009351

in reflected light. Above that level two phases are observable by microphotography indicating the breakdown of the solid solution. Intermediate proportions are radiographically analyzed in detail. The stabilizing action by neodymium orthosilicate on high temperature forms of dicalcium silicate is observed, as well as the formation of "complex" Ca_2SiO_4 crystals, macroscopically homogeneous and corresponding a microheterogeneous two-phase state. Orig. art. has: 2 Figures, 3 Tables

ASSOCIATION: None

SUBMITTED: 04Jan63

DATE ACQ: 07Feb64

ENCL: 00

SUB CODE: CH

NR REF SOV: 008

OTHER: 016

Card 2/2

ACCESSION NR: AP4043580

0

of people (a) and personal (b) ...

... and 2 tables.

ASSOCIATION: None

SUBMITTED: 09/4/64

ENCL 01

REF CODE 20

NO REF SOV: 007

OTHER: 002

Card 2/3

L 15800-65
ACCESSION NR: AP4043580

ENCLOSURE: 01

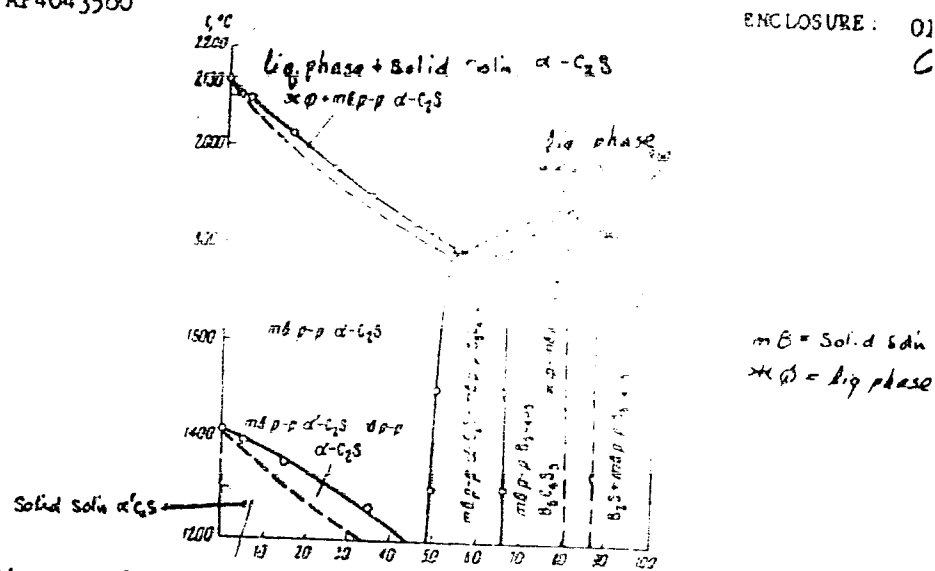


Fig. 1. Phase diagram of the Ca_2SiO_4 - Ba_2SiO_4 system. Ba_2SiO_4 wt %.

Card 3/3

KUZNETSOVA, G.N.; FEDOROV, N.F.; SHEVIYAKOV, A.M.

Infrared transmission spectra of cement clinker minerals and
their hydration products. Zhur. prikl. khim. 37 no.12:2585-2590
D '64. (MIRA 18:3)

TOROPOV, N.A.; FEDOROV, N.F.

Study of the phase diagram of the system calcium orthosilicate-neodymium orthosilicate and calcium orthosilicate-lanthanum orthosilicate. Izv. AN SSSR. Neorg. mat. 1 no.1:126-130 Ja '65. (MIRA 18:5)

1. Leningradskiy tekhnologicheskii institut imeni Lensoвета.

By analysis, the results of which are given in Table 1 of the Enclosure.
Maximum concentration of the solid solution corresponds to 40 ± 1.5 wt % H₂O.

L 00314-65

00314-65

The analysis results are

00314-65

SYCHEV, M.M.; KORNEYEV, V.I.; ~~FEDOROV, N.E.~~; TOROPOV, N.A.,
doktor tekhn. nauk prof., red.; BUKINA, N.N., red.

[Alite and belite in portland cement clinker and the
processes of alloyage] Alit i belit v portlandtsementnom
klinkere i protsessy legirovaniia. Pod red. N.A.Toropova.
Leningrad, Stroiizdat, 1965. 152 p. (MIRA 18:12)

1. Chlen-korrespondent AN SSSR (for Toropov).

FEDOROV, N.F., polkovnik

Provocateurs and business men at the head of the United States
Air Force. Vest.Vozd.Fl. no.12:80-84 D '60. (MIRA 14:5)
(United States--Air force)

FEDOROV, N.F.; VOLKOV, L.Ye,

[Graphs for hydraulic calculation of sewer systems] Gra-
fiki dlia gidravlicheskogo rascheta kanalizatsionnykh se-
tei. Moskva, Stroiizdat, 1964. 110 p. (MIRA 17:11)

RABINOVICH, R.I. Prinimali uchastiye: ALEGLAN, L.K., kand. sel'khoz. nauk;
BARABANOVA, N.N.; BOSENKO, K.S.; VINNIK, V.V.; GRIGORCHUK, Ye.V.;
GUMEROV, A.Kh.; DOBROCHASOV, D.F.; ZAMURAYEV, I.V.; ZAYTSEVA, A.G.,
kand. sel'khoz. nauk; KOL'TSOV, N.A.; LEVITIN, Kh.Z., kand. biol.
nauk; LISITSKIY, B.Ya.; MATYASH, G.P.; MENTOV, A.V.; RABINOVICH, R.I.;
SAL'NIKOV, V.V.; SVECHNIKOV, I.V.; SIMONOV, P.K.; SMIRNOV, V.V.;
SMIRNOV, L.P.; SMIRNOVA, V.I.; STEPANOVA, V.I.; TARASOV, A.A.; FILA-
TOVICH, V.V., kand. sel'khoz. nauk; FEDOROV, N.G., kand. tekhn. nauk;
TSAPLIN, M.F.; KHROMOV, L.V.; DAVYDOVA, I., red.; PAL'MINA, N., tekhn.
red.

[Sverdlovsk in Agricultural Exhibition of 1959] Sverdlovskaya sel'-
khoz'istvennaya vystavka. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo,
1960. 131 p. (MIRA 14:10)

1. Sverdlovsk. Sverdlovskaya oblastnaya sel'skokhozyaystvennaya
vystavka, 1959.

(Sverdlovsk—Agricultural exhibitions)

FEDOROV, N. G.

PA 153T48

USSR/Engineering - Power Plants, Hydro-
electric
Flow Regulation

Nov 49

"Flow Regulation at Hydro-Installations of the Old
Industrial Urals," N. G. Fedorov, Engr, 2 pp

"Gidrotekh Stroi" No 11

Describes methods of flow control employed by the
old dam builders of the Urals. Suggests that their
experience may prove useful in the layout of small
rural hydroelectric power stations. Includes two
diagrams.

153T48

AUTHORS: Rashkov, S.Ya., Engineer
Fedorov, N.G., Engineer
Sizenov, L.K., Engineer

SOV/122-58-11-12/18

TITLE: The Mechanisation of Certain Assembly Operations
(Mekhnizatsiya nekotorykh sborochnykh operatsiy)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 12, pp 66-69 (USSR)

ABSTRACT: A semi-automatic machine to perform the assembly operations of pressing a flanged metal sleeve over an internal spigot in a plastic cover, of pressing a plastic false bottom into the same cover together with a rubber seal and finally, of screwing-in a hollow adaptor fitting into the cover (shown in Fig.1, 2 and 3 respectively), is illustrated diagrammatically in Fig.4. Manual labour is restricted to the loading of the components into the machine and removal of the assembly. One of the operating heads, namely that for assembling the false bottom, is illustrated in cross-section in Fig.5. In broad outline, the machine contains 3 intermittently indexed turntables which feed

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80V/122-58-11-12/18

The Mechanisation of Certain Assembly Operations

the component parts into an automatic assembling mechanism. There are three assembling stations which may be operated jointly or independently. The productivity of the machine is 5750 units per 8-hour shift. There are 5 diagrams.

Card 2/2

SAMBUROV, V.A.; FEDOROV, N.I.

Multiple lens and mirror repeaters of patterns. Tekst. prom.
16 no.8:38-43 Ag '56. (MLRA 9:10)

(Textile printing)

117 AND 118 INDEX		119 AND 120 INDEX	
FEDOROV, N.I.		C.A.	
<p>Gas generator, N. I. Fedorov. U.S.S.R. 40,434. May 21, 1947. Cells in generator by decompos. of oil in an elec. arc. The generator comprises several pairs of electrodes of alternating polarity arranged horizontally at small distances from one another. The electrodes thus form a grill onto which is placed ground C. Addn. to U.S.S.R. 40,382 (C.A. 30, 371¹).</p> <p>M. Hosh</p>			
<p>ABB-51A METALLURGICAL LITERATURE CLASSIFICATION</p>			
FROM STRUCTURE		FROM COMPOSITION	
<p>GROUP 1</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>		<p>GROUP 2</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>	

FEDOROV, N.I.

Open-line mechanized shield tunneling. Transp.stroi. 6 no.9:6-8
S '56. (MLRA 9:11)

(Tunneling)

FEDOROV, N.I.

25995 Fedorov, N.I. Sindrom Vul'Piana Travmaticheskogo Ispiskhozhdeniya
(Gematomii Grudnogo Otdela Spinnogo Mozga). V SB: Problemy Vosstancvit.
Lecheniya Invalidov Otechestv. Voyny. Astrakhan', 1948, S. 138-42.

SO: Letopis' Zhurnal Statey, N. 30, Moscow 1948

FEDOROV, N. I.

25949 Fedorov, N. I. Ispol'zovaniye postural'nykh i zashchitnykh
reflektsov v lechebnoy passivnoy gimnastike tonicheskikh kontraktur
V sb: Problemy vosstanovit. lecheniya invalidov Otechestv. voyny.
Astrakhan', 1948, s. 143-45

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

FEDOROV, N. I.

25956 Fedorov, N. I. Nervnyy faktor v patogeneze vyalo graniliruyushchikh ran. V. sb: Problemy vosstanovit lecheniya invalidov Otechestv. Voyny. Astrakhan', 1948, s. 203-07.

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

FEDOROV, N.I.

Structure and properties of the wood of the Siberian larch and
Scotch pine. Sbor.nauch.rab.Bel.otd.VBO no.1:154-157 '59.

(MIRA 14:14)

(Larch) (Pine) (Wood)

FEDOROV, N.I.

Using the biopreparations of trichoderma for controlling the falling
over of tree seedlings., Sbor. bot. rab. Bel. otd. VBO no.2:224-
228 '60. (MIRA 15:1)

(Trichoderma)

(Forest nurseries)

~~FEDOROV, N.I.~~

Carbohydrate metabolism in Chinese apple tree wildings following
planting and its importance for the subsequent growth of plants.
Fiziol. rast. 8 no.1:117-119 '61. (MIRA 14:3)

1. Department of Plant Physiology of Agricultural Institute, Saratov.
(Apple) (Tree planting) (Carbohydrate metabolism)

FEDOROV, N.I.; YEGOROVA, S.I.

Effect of growth stimulants on phosphorus and calcium uptake by
woody plants. Fiziol. rast. 10 no.2:227-229 Mr-Apr '63.

(MIRA 16:5)

1. Saratov Agricultural Institute, Chair of Plant Physiology.
(Growth promoting substances) (Woody plants)
(Plants, Effect of minerals on)

FEDOROV, N.I.

Effect of canker caused by *Peridermium pini* and *Cronartium flaccidum*
on the chlorophyll content in the needles and the water balance of
pine. Bot.; issl. Bel. otd. VBO no.6:255-258 '64. (MIRA 18:7)

FEDOROV, N. I.

Fedorov, N. I. -- "The Productivity and Technical Properties of Forest Plantings of Newly Introduced Softwoods and Ordinary Pines in the Belorussian SSR." Min Higher Education USSR. Belorussian Forestry Engineering Institute imeni S. M. Kirov. Minsk, 1956. (Dissertation For the Degree of Candidate in Agricultural Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

Country : USSR
Category: Forestry. Forest Cultures.

K

Abs Jour: RZhDiol., No 11, 1958, No 48770

Author : Fedorov, N.I.; Barinov, G.V.
Inst : Saratov Agricultural Inst.
Title : Growth Characteristics of the Roots of One-Year Old
Tree Seedlings.

Orig Pub: Tr. Saratovsk. s.-kh. in-ta, 1957, 10, 243-261

Abstract: Observations were conducted on ash, Tatarian maple,
common elm, and Chinese elm (*Ulmus parvifolia*)
during 1951-1952 at "Industrial'nyy" Tree Nursery
in the Yekaterinovskaya Rayon of Saratovskaya Oblast.
The dynamics of root growth in depth and the start
of lateral roots in one-year old seedlings were

Card : 1/2

USSR / Forestry. Dendrology.

K-3

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72789.

Author : ~~Fedorov, N. I.~~
Inst : Belorussian Forestry Institute.
Title : Productivity and Physical-Mechanical Properties
of the Wood of Larch Cultivations Growing in the
BSSR.

Orig Pub: Sb. nauchn. tr. Belorussk., lesotekhn. in-t, 1957,
vyp. 10, 188-198.

Abstract: Siberian, European and Japanese Larch in cultiva-
tions on sandy and clayey soils in the BSSR are
distinguished by good growth of height and thick-
ness. Stock of plantations of the last two species
are 17-19 and, of the first, 11% higher than in
normal pine plantations of 1A quality according
to A. V. Tyurin's tables. The wood of all three

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15

USSR / Forestry. Dendrology.

K-3

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72789.

Abstract: species is characterized by high physical-technical properties (Siberian larch is in first place). Tables of data are cited on the physical and mechanical properties and their change according to the radius and height of the trunk. -- L. V. Nesmelov.

Card 2/2

FEDOROV, N. I.

K.

USSR/Forestry .. Forest Cultures.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95836

Author : Shatilov, F.V., Fedorov, N.I.

Inst : N.A. Maksimov Academy AS USSR

Title : Experiment of Physiological and Anatomic-Morphological
Diagnosis in Preparation of Seedlings of Tree Species
for Autumn Planting.

Orig Pub : V. sb.: Pamyati akad. N.A. Maksimova, M., AN SSSR, 1957,
225-232.

Abstract : Observations conducted in a forest nursery in Saratovskaya
Oblast showed that survival of seedlings of *Fraxinus viri-*
dis Melx. as well as of *F. excelsior L.* and the small-
leaved elm is greatest during transplanting in the stage
of autumn attenuation of cambium activity in the stem.
The dying away of cambium activity coincides with the

Card 1/2

CHIRVINA, Yb.L., kand.med.nauk; FEDOROV, N.I.

Thermal burns of the respiratory tract. Vest.khir. no.6:48-50
'62. (MIRA 15:11)

1. Iz kliniki obshchey khirurgii (zav. - prof. P.P. Kovalenko)
Rostovskogo-na-Donu meditsinskogo instituta.
(RESPIRATORY ORGANS—WOUNDS AND INJURIES)
(BURNS AND SCALDS)

FEDOROV, N.M.

"Radiation in outer space and life."

Report submitted to the Committee on Space Research Symposium on
Terrestrial Life in Space, Warsaw, Poland 3-11 June 1963

FEDOROV, N.M.

Device for measuring the corrugation of a metal strip. Izv.
tekh. no. 589-10 My'64 (MIRA 1787)

FEDOROV, N. M.

Title: Guarding of radio-receiving from interferences produced by the DC current motors

Author: N. M. Fedorov and N. M. Leshchinskii

Publication: Electricity

No. 3 pp. 27-28 Date: 1944

From List ATIX 20361-1

FEDOROV, N. M.

"Infrared Drying," Prom. Energet., No. 2, 1948. Engr., 1948.

FEDOROV, N. M.

82142
S/058/60/000/02/20/023

9.1400

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 2, p. 227, # 4179

AUTHOR: Fedorov, N. M.

TITLE: A Coaxial Phase-Shifter¹⁵ of the Contact-Free Type for the Decimeter Range

PERIODICAL: Nauchn.-tekhn. inform. byul. Leningr. politekhn. in-t, 1959, No. 1, pp. 13-16

TEXT: A narrow-band phase-shifter was described, the design of which is based on a coaxial rectangular bridge. All arms of the bridge have the length $\lambda/4$. Voltage U_1 is supplied to one input of the bridge, to the two other inputs resistances $Z_3 = Z_4 = Z$ are connected. The output voltage is taken from resistance $Z_2 = W$ (W is the wave impedance of the coaxial line of the input arm of the bridge). The input and the output voltages are connected by the equation: $U_1/U_2 = j(W+Z)/(W-Z)$. In the case of $Z = jX$, depending on the value of X a change in the phase of the output voltage is obtained, without a change of its amplitude. In this case the change of X in both arms of the bridge is carried out synchronously. The case was also considered when impedance Z has low losses (resonance circuits). In

Card 1/2

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82142

s/058/60/000/02/20/023

A Coaxial Phase-Shifter of the Contact-Free Type for the Decimeter Range

this case small changes of the output voltage also in the amplitude are obtained. An oscillation system of the cylindrical type is used as load alternating resistance. It consists of two coaxial cylinders cut along the whole length of their generatrix. A design was tested, in which the slit in the outer cylinder is unchanged in width, and in the inner cylinder it is wedge-shaped. In the case of a turn of the slits relative to each other through 180° , a maximum phase shift of 220° is obtained at a travelling wave coefficient of not lower than 0.6.

Yu. P. Ilyasov

44

Card 2/2

S/194/61/000/010/068/082
D271/D301

AUTHORS:

Petrunkin V.Yu., Fedorov, N.M. and Izraylit, A.B.

TITLE:

Ferrite phaseshifter for the dm region

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 10, 1961, 55, abstract 10 I332 (Nauchno-tekhn.
inform. byul. Leningr. politekhn. in-t, 1960, no. 9,
33-35)

TEXT:

Short-circuited sections of co-axial lines, $\lambda/4$ long, filled with ferrite, are used as phaseshifters. Input resistance of these sections depends on the applied magnetic field. A co-axial rectangular bridge is used in the apparatus; free arms of the bridge are loaded with phaseshifters of the type described above. A variation of the resistance of phaseshifters causes a change in the phase-shift between the input and output voltages. The phaseshifter ensures a phase change of 70° when magnetic field varies from 0 to 1000 oersted. Power changes at the phaseshifter output

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Card 2/2

FEDOROV, N.M.

The 6/21 precision flattening mill. Biul.tekh.mekon.inform.Gos.
nauch.-issl.inst.nauch. i tekh.inform. 16 no.10:6-8 '63.
(MIRA 16:11)

Fedorov, N.M.

AID P - 5188

Subject : USSR/Engineering
Card 1/1 Pub. 103 - 10/24
Author : Fedorov, N. M.
Title : Adjustable reamer with hard alloy blades
Periodical : Stan. 1 instr., 7, 31-33, J1 1956
Abstract : The Central Scientific Research Institute of Machine-Building Technology (TsNIITMASH) designed an adjustable reamer with means provided for increasing or decreasing the cutting diameter. The author presents its design, operation, and advantages. One photo, 7 drawings and 2 tables.
Institution : As above
Submitted : No date

2 = DOKOV, N.M.

AUTHOR: Kryzhanovskiy, v.v. and Fedorov, n.m., Engineers. ^{133-7-23/28}

TITLE: The Development of Production of Springs for Watches.
(Razvitiye proizvodstva chasovykh pruzhin)

PERIODICAL: Stal', 1957, no.7, pp. 656 - 657 (USSR).

ABSTRACT: The production of steel strip for manufacturing springs for watches was developed in 1950 and I.A. Savinkov and M.I. Zlotnikov developed and introduced a new technology of manufacturing spiral springs (no data given) into normal practice. The automation of the manufacturing process was to be developed by the Ministry of Production of Instruments and Means of Automation (MP and SA). The Ministry, however, after some delay, requested permission of the Ministry of the Iron and Steel Industry to design an automatic process for manufacturing S-like springs which were not produced in the USSR. Results of tests of imported Swiss S-springs (from stainless, non-magnetic steel) and their comparison with those of spiral springs produced by the works from carbon steel are compared (table). It is concluded that S-like springs are not superior to spiral springs. The twice longer life of S-springs is ascribed to the superiority of the quality of steel. It is pointed out that as the cost of special steel is 5 times higher than that of carbon steel, it would be cheaper to produce springs

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The Development of Production of Springs for Watches.^{133-7-23/28}
from carbon steel and change them every 20 years (mean service
life).

There are 1 table, 2 figures and 2 Slavic references.

ASSOCIATION: "Molotov" Leningrad Steel Rolling and Wire Cable Works.
(Leningradskiy Staleprokatnyy i provolochno-kanatnyy
Zavod im. Molotova)

AVAILABLE: Library of Congress.

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FEDOROV, N.M., starshiy elektromekhanik; CHEREPOVSKIY, I.F.;
ROMANENKO, B.D.

Letters to the editor. Avtom.telem. i sviaz' 3 no.12:41
D '59. (MIRA 13:4)

1. Kontrol'no-ispytatel'nyy punkt Bologovskoy distantzii signalizatsii i svyazi Oktiabr'skoy dorogi (for Fedorov).
2. Nachal'nik laboratorii signalizatsii i svyazi Donetskoy dorogi (for Cherepovskiy). 3. Zamestitel' nachal'nika Ozherel'skoy distantzii signalizatsii i svyazi Moskovskoy dorogi (for Romanenko).

(Railroads---Signaling)

PLANE I BOOK EXPLANATION 507/1504

Moscow. Federal'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya
 Nauchnoye voyzneye tekhnologii tyazhelaye mashinostroyeniya, chast' 2: Obrabotka
 metallov resanuyem i kontrol' kachestva detal'nykh (Some Problems in the Manufacture
 of Parts) Moscow, Mashgiz, 1960. 173 p. (Series: Ita; [trudy] kn. 97)
 2,500 copies printed.

Sponsoring agencies: Gosudarstvennyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya
 Tekhnologii i mashinostroyeniya.

Ed.: Ye.P. Dubov, Doctor of Technical Sciences, Professor; Managing Ed. for
 Literature on Heavy Machine Building: S.N. Golovis, Engineer; Ed. of Publish-
 ing House: G.K. Shchegolev, Tech. Ed.: E.I. Chernova.

PURPOSE: This book is intended for technical personnel in heavy-machine plants
 and for scientific workers in factory laboratories and research institutes.

Card V/4

CONTENTS: The book contains a summary of work conducted by the personnel of
 Tekhnologii in the field of mechanical machining and quality control of parts.
 Included is a discussion on the correct combination of depth, feed, and speed
 in setting with maximum capacity of the machine tool. Also considered are
 the development of machining methods for rough and semifinished production, and
 the application of ultrasonic devices for flaw detection and measurement of
 wall thickness. In personalities are mentioned. References follow some of
 the chapters.

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- Ch. II. Development of Efficient Cutting Regimes, and Methods of Improving
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 [Serey, S.I., S.I. Tikhonovskiy and L.K. Kuchma, Candidates of Tech-
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- Ch. III. The Development and Search for New Tool Materials [Serey, S.I. and
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 Ovsyannikov, Candidates of Technical Sciences; V.N. Katsenelenbaum,
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- Ch. IV. New Designs of Cutting Tools for the Heavy-Machinery [Industry]
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- Ch. V. Basic Trends and Some Results of Investigations of the Machined Sur-
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- Ch. VI. Some Results of Work on the Improvement of Manufacturing Processes
 in the Heavy-Machinery Industry [Serey, S.I., S.I. Tikhonovskiy,
 O.G. Ovsyannikov, Ye.N. Kibulyanov, S.K. Malozemov, Candidates of
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111

PART II. QUALITY CONTROL OF PARTS

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 Candidate of Technical Sciences] 137

Card 3/4

- Ch. II. Ultrasonic Flaw Detection and Measurement of [Wall] Thickness
 of Products [Serey, S.I., Engineer] 154

AVAILABLE: Library of Congress

ACC NR: AP6025004 (N) SOURCE CODE: UR/0122/66/000/007/0052/0055

AUTHORS: Fodorov, N. M. (Engineer); Ovsyonyko, A. N. (Engineer)

ORG: none

TITLE: Influence of residual stresses in the stock on the warping of turbine blades during the manufacturing process

SOURCE: Vestnik mashinostroyeniya, no. 7, 1966, 52-55

TOPIC TAGS: turbine blade, metallurgic research, metal deformation, steel, metal stress / 1Kh17N2 steel

ABSTRACT: The influence of residual stresses in the stock of steel 1Kh17N2 on the warping of turbine blades produced from the latter material was investigated at TsNIITMASH. The effect of three different treatments of the stock on the residual stress was studied: a) quenching from 1030C in clamp and annealing at 550C, followed by cooling in air; b) free quenching from 1020C, annealing at 570C in clamp, followed by cooling in air, and c) quenching from 1020C in clamp and annealing at 580C in clamp, followed by cooling in furnace. The experimental results are shown graphically (see Fig. 1). It was found that thermal treatment of stock does not insure complete removal of stresses in the latter. The most effective method for residual stress

Card 1/2

UDC: 62-226.2:539.319

L 09078-67

ACC NR: AP6025084

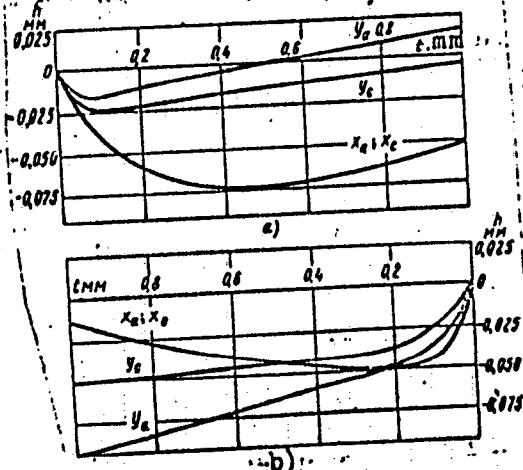


Fig. 1. Dependence of the deformation h of rolled stock treated according to third method, on the thickness of the removed layer t for: a - trough; b - back of blade (etching order: blade--trough)

removal was that of method (c), see above. Orig. art. has: 4 graphs and 2 equations.

SUB CODE: 13/10/ SUBM DATE: none

turbine blade material β

Card 2/2 β

ACC NR: AP7004767

SOURCE CODE: UR/0413/67/000/001/0081/0081

INVENTOR: Fedorov, N. M.; Ovseyenko, A. N.

ORG: None

TITLE: An installation for determining permanent deformations. Class 42, No. 190045 [announced by the Central Scientific Research Institute of Technology and Machine Building (Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 81

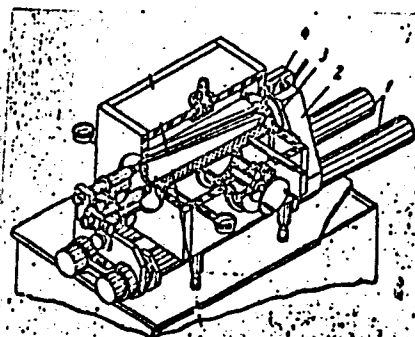
TOPIC TAGS: material deformation, electroerosion machining, turbine blade

ABSTRACT: This Author's Certificate introduces an installation for determining permanent deformations due to the use of electrochemical methods for removing surface metal. The unit contains an electrohydraulic chamber, a measurement device and a fastener for holding the part and placing it in the chamber. Profiled components such as turbine blades are studied by making this fastener in the form of guides mounted outside the chamber with a sliding carriage holding a rotating sleeve to which the component is fastened.

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UDC: 620.172.216

ACC NR: AP7004767



1--guides; 2--carriage; 3--sleeve; 4--component

SUB CODE: 11,10 SUBM DATE: 09Oct65

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ACC NR: AP7005388

(N) SOURCE CODE: UR/0114/67/000/001/0025/0031

AUTHOR: Ovseyenko, A. N. (Engineer); Fedorov, N. M. (Engineer)

ORG: none

TITLE: Reducing the warpage of large turbine blades during their cold working

SOURCE: Energomashinostroyeniye, no. 1, 1967, 28-31

TOPIC TAGS: ^{steel,} steam turbine, turbine blade, metal machining, metal deformation / 2Kh13 steel, PVK-200 steam turbine

ABSTRACT: The blade shop of the Leningrad Metalworking Plant carried out a comprehensive study of the deformations involved in the processes of production of turbine blades, starting with examination and processing of the billet and ending with finishing operations. The blades used in this research were of 2Kh13 steel and belonged in the last (27th) low-pressure stage of the PVK-200 steam turbine; the length of their working part was 770 mm, their mean width was 100 mm and their angle of twist, 57°. Deformations at various points on the blade were measured with the aid of a composite template, separately during every principal machining operation (planing of the concave front, milling of the convex back, grinding and

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UDC: 62-226.2:620.191.38.002

ACC NR: AP7005388

polishing of the concave and convex surfaces, welding of stellite plates onto the leading edge of the blade). Findings: generally blade deformations do not exceed 2 mm. The maximum deformations are caused by the rough planing of the concave blade front and rough milling of the blade back, and they are associated with the mechanical stresses arising during the machining as well as with the residual stresses in the workpiece itself due to its previous heat treatment. These deformations can be minimized by properly choosing the sequence of machining operations, e.g. by alternating the machining of the blade back with that of the blade front (rough milling of blade back, rough planing of blade front, finish milling of blade back, etc.), so as to readjust the base surfaces, the reason being that during the rough machining operations the blade axis gets curved and the base planes become incorrectly aligned with respect to the blade root. In grinding and polishing the principal factor in warping is the tolerances, the wear of the grinding wheel and the direction in which the grinding is performed. Bakelite-bonded grinding wheels reduce warping compared with ceramic-bonded wheels. Competent heat treatment of the blanks, proper sequence of machining attachments, and selection of proper cutting regimes and of cutting tools of suitable material composition and geometry make it possible to reduce the warping of large turbine blades by a factor of 3-5. Orig. art. has: 4 figures.

SUB CODE: 11, 10, 13, 20/ SUBM DATE: none: ORIG REF: 001

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